UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,326	06/15/2005	Hendrik Van Houten	NL 021377	9278

24737 7590 10/31/2008

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER	
PATANKAR, ANEETA V	
ART UNIT	PAPER NUMBER
2627	

MAIL DATE	DELIVERY MODE
10/31/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/539,326	VAN HOUTEN, HENDRIK	
	Examiner	Art Unit	
	Aneeta Patankar	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/31/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. **Claims 1, 4, 5, 7, 9, 17, and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Pub. No. 2002/0098446 A1 to *Alperovich et al*. in view of U.S. Patent No. 6,706,358 B1 to *McDaniel et al*.

As to **claims 1 and 17**, *Alpervoich* discloses a method of manufacturing an optical information storage unit, the method comprising the steps of: providing an information layer comprising a plurality of data areas (702), each data area being arranged to emit light when illuminated by light at a predetermined wavelength (Paragraph 0023, lines –10, Fig. 7, paragraph 0060, lines 3-6), where the fluorescing phase (702) is the area that emits light when illuminated by a light.

Alpervoich is deficient in disclosing providing a readout layer comprising a plurality of optical apertures, the readout layer being located at a distance from the information layer such that each optical aperture is arranged to image substantially only the near field of light emitted from a respective data area.

However, *McDaniel* discloses providing a readout layer comprising a plurality of optical apertures, the readout layer (204) being located at a distance from the information layer such that each optical aperture (58) is arranged to image substantially

only the near field of light emitted from a respective data area (Fig. 3, column 12, lines 15-17), where a plurality of aperture can be created using this method.

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to have modified the optical information storage unit with an information layer comprising a plurality of data areas as taught by *Alpervoich* by including that the readout layer is comprised of a plurality of apertures as taught by *McDaniel*. The suggestion/motivation would have been in order to vertically align the magnetic domains in the readout layer such that the magnetic domain marks in the readout layer can be detected by the head elements (McDaniel, column 12, lines 15-22).

As to **claim 4**, *Alpervoich* is deficient in disclosing the information storage unit, wherein said information layer has a data areas per unit area, and said readout layer has b optical apertures per unit area, where a>b.

However, *McDaniel* discloses the information storage unit, wherein said information layer has a data areas per unit area, and said readout layer has b optical apertures per unit area, where a>b (Fig. 5a, column 12, lines 26-33), where aperture b (580) is smaller than spot diameter a (348). In addition, the same motivation is used as the rejection in claim 1.

As to **claim 5**, *Alpervoich* discloses the information storage unit where the light emitted from each data area when illuminated corresponds to light transmitted (Paragraph 0023, lines 4-10, Fig. 7, paragraph 0060, lines 3-6), where the fluorescing phase (702) is the area that emits light when illumined by a light.

Alpervoich is deficient in disclosing each data area comprises an optical aperture.

However, *McDaniel* discloses each data area comprises an optical aperture (580) (Fig. 3, column 12, lines 15-17). In addition, the same motivation is used as the rejection in claim 1.

As to **claim 7**, *Alpervoich* discloses the information storage unit, wherein each area comprises a fluorescent material, the light emitted from each data area comprising the light emitted by the material as it fluoresces, the illuminating light acting to excite the fluorescent material (Paragraph 0023, lines 4-10, Fig. 7, paragraph 0060, lines 3-6), where the fluorescing phase (702) consists of the fluorescent material and light is emitted by this area when excited.

As to **claim 9**, *Alpervoich* discloses the optical information storage unit, wherein at least one of said data areas is modifiable by a predetermined process so as to alter the optical characteristics of the data area such that the intensity of light emitted by the data area when illuminated will be altered (Paragraph 0074, lines 1-3), where different compounds can be chosen to alter the intensity of light in the fluorescence regions or data areas that are illuminated.

As to **claim 18**, *Alpervoich* discloses a method of writing data to an optical information storage unit, the information storage unit comprising an information layer comprising a plurality of data areas, each data area being modifiable so as to emit light when illuminated by light of a predetermined wavelength (Paragraph 0028), where the laser or light source provides a specific wavelength of light to illuminate the data areas;

and selectively modifying at least one data area so as to emit light at a predetermined intensity when illuminated, the predetermined intensity being indicative of the information stored by the respective data area (Paragraph 0074, lines 1-3), where different compounds can be chosen to alter the intensity off light in the fluorescence regions or data areas that are illuminated.

Alpervoich is deficient in disclosing a readout layer comprising a plurality of optical apertures, each optical aperture being arranged to image substantially only the near field light emitted from the respective data area.

However, *McDaniel* discloses a readout layer (204) comprising a plurality of optical apertures (580), each optical aperture being arranged to image substantially only the near field light emitted from the respective data area (Fig. 3, column 12, lines 15-17), where a plurality of apertures can be created using this method. In addition, the same motivation is used as the rejection in claim 1.

3. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Pub. No. 2002/0098446 A1 to *Alperovich et al*. in view of U.S. Patent No. 6,706,358 B1 to *McDaniel et al*. as applied to claim 1 above, and further in view of U.S. Patent Pub. No. 6,144,631 to *Kawano*.

As to **claim 8**, *Alpervoich* and *McDaniel* are deficient in disclosing the information storage unit as, wherein an optically transmissive material is placed between the information layer and the readout layer, the optically transmissive material having a refractive index greater than 1 at the wavelength of the emitted light.

However, *Kawano* discloses the information storage unit as, wherein an optically transmissive material is placed between the information layer and the readout layer, the optically transmissive material having a refractive index greater than 1 at the wavelength of the emitted light (Column 2, lines 18-35), where the transmissive material is place between the information and readout layers and the refractive index is greater than or equal to 1.6.

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to have modified the optical information storage unit with an information layer comprising a plurality of data areas as taught by *Alpervoich* and *McDaniel* by including a transmisive material as taught by *Kawano*. The suggestion/motivation would have been in order for the light applied from the light transmitting layer side to a readout information side to satisfy the equation with the relationship between the minimum width W and wavelength λ (Kawano, column 2, lines 24-30).

4. **Claims 2, 3, 6, 10-16 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Pub. No. 2002/0098446 A1 to *Alperovich et al*. in view of U.S. Patent No. 6,706,358 B1 to *McDaniel et al.* as applied to claim 1 above, and further in view of U.S. Patent Pub. No. 2003/0035361 to *Knight et al*.

As to **claim 2**, *Alperovich* and *McDaniel* are deficient in disclosing the information storage unit, wherein both the readout layer and the information layer are planar and substantially parallel, the separation between the information layer and the readout layer being less than the wavelength of emitted light.

However, *Knight* discloses the information storage unit, wherein both the readout layer and the information layer are planar and substantially parallel, the separation between the information layer and the readout layer being less than the wavelength of emitted light (Fig. 28D, paragraph 0250, lines 3-5), where the readout layer and information are planar and parallel and the separation is less than a wavelength of emitted light.

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to have modified the optical information storage unit with an information layer comprising a plurality of data areas as taught by *Alpervoich* and *McDaniel* including both the readout and information layers being planar and substantially parallel as taught by *Knight*. The suggestion/motivation would have been in order to align the magnetization in order to obtain a higher resolution (Knight, paragraph 0250).

As to **claim 3**, *Alperovich* and *McDaniel* are deficient in disclosing the information storage unit, wherein the information layer is movable within a plane substantially parallel to the readout layer.

However, *Knight* discloses the information storage unit, wherein the information layer is movable within a plane substantially parallel to the readout layer (Fig. 28E, paragraph 0250), where the readout layer and storage layer adjust their magnetization in relation to each other and the layers are movable within a plane in relation to each other. In addition, the same motivation is used as the rejection in claim 2.

As to **claim 6**, *Alperovich* and *McDaniel* are deficient in disclosing the information storage unit, wherein each data area comprises a reflector, the light emitted from each

data area comprising light reflected from the reflector when the respective data area is illuminated.

However, *Knight* discloses the information storage unit, wherein each data area comprises a reflector, the light emitted from each data area comprising light reflected from the reflector, or reflective surface (1712) when the respective data area is illuminated (Fig. 17, paragraph 0165, lines 7-9), where the reflective surface is on the optical disc.

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to have modified the optical information storage unit with an information layer comprising a plurality of data areas as taught by *Alpervoich* and *McDaniel* by including reflectors in each data area as taught by *Knight*. The suggestion/motivation would have been in order to reflect the light back to the optics module which decodes the information provided by the reflected beam (Knight, paragraph 0170).

As to **claim 10 and 11**, *Alperovich* discloses a reader for an optical information storage unit, the reader being arranged to removably receive an optical information storage unit, the reader comprising: a light source arranged to provide light at the predetermined wavelength for illumination of the data areas (Paragraph 0028), where the laser or light source provides a specific wavelength of light to illuminate the data areas.

Alperovich and *McDaniel* are deficient in disclosing an optical sensor comprising a plurality of light sensing areas, the optical sensor being arranged to detect the near

field of light imaged by a respective optical aperture of the optical information storage unit.

However, *Knight* discloses an optical sensor comprising a plurality of light sensing areas, the optical sensor being arranged to detect the near field of light imaged by a respective optical aperture of the optical information storage unit (Fig. 28G, paragraph 0270, lines 5-6), where the optical sensor comprises detectors A and B.

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to have modified the optical information storage unit with an information layer comprising a plurality of data areas as taught by *Alpervoich* and *McDaniel* by including an optical sensor being arranged to detect the near field of light as taught by *Knight*. The suggestion/motivation would have been in order to detect the MO signal to detect recorded data on the disc (Knight, paragraph 0270, line 8).

As to **claim 12**, *Alperovich* and *McDaniel* are deficient in disclosing the reader, further comprising writing means arranged to controllably alter the optical properties of the data areas, so as to write data to the data areas.

However, *Knight* discloses the reader, further comprising writing means arranged to controllably alter the optical properties of the data areas, so as to write data to the data areas (Paragraph 0009, lines 1-6), where the read/write head writes data into the data areas and alters the optical properties while doing so.

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to have modified the optical information storage unit with an information layer comprising a plurality of data areas as taught by *Alpervoich* and *McDaniel* by

including a writing means to alter the optical properties of the data areas as taught by *Knight*. The suggestion/motivation would have been in order to write/erase data onto the disc made of TbFeCo (Knight, paragraph 0015, lines 1-6).

As to **claim 13**, *Alperovich* and *McDaniel* are deficient in disclosing the reader, further comprising movement means arranged to move the position of the information layer relative to the position of both the readout layer and the optical sensor.

However, *Knight* discloses the reader, further comprising movement means arranged to move the position of the information layer relative to the position of both the readout layer and the optical sensor (Fig. 28G, paragraph 0270), where the SIL is moved in relation to the information and readout layers and optical sensor.

At the time of invention, it would have been obvious to a person ordinary skilled in the art to have modified the optical information storage unit with an information layer comprising a plurality of data areas as taught by *Alpervoich* and *McDaniel* by including a movement means to position the readout layer and optical sensor as taught by Knight. The suggestion/motivation would have been in order to collect the reflected beam into polarization beam splitter into two detectors to determine the reflectivity and recorded data of the disc (Knight, paragraph 0270, lines 3-8).

As to **claim 14**, *Alperovich* and *McDaniel* are deficient in disclosing an information processing system comprising at least one of: an optical information storage unit.

However, *Knight* discloses an information processing system comprising at least one of: an optical information storage unit (Fig. 3, paragraph 0094, line 4), where the optical disc is the optical information storage unit.

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to have modified the optical information storage unit with an information layer comprising a plurality of data areas as taught by *Alpervoich* and *McDaniel* by including an optical information storage unit as taught by *Knight*. The suggestion/motivation would have been in order to write data on the optical medium or optical information storage unit (Knight, paragraph 0094, lines 5-6).

As to **claim 15**, *Alperovich* discloses a method of reading information from an optical information storage unit, the information storage unit comprising: an information layer comprising a plurality of data areas, each data area being arranged to emit light when illuminated by the light at a predetermined wavelength (Paragraph 0023, lines 4-10, Fig. 7, paragraph 0060, lines 3-6), where the fluorescing phase (702) is the area that emits light when illuminated by a light; wherein the method comprises the steps of: illuminating at least one data area with light at the predetermined wavelength (Paragraph 0028), where the laser or light source provides a specific wavelength of light to illuminate the data areas.

Alperovich is deficient in disclosing a readout layer comprising a plurality of optical apertures, each optical aperture being arranged to image substantially only the near field of light emitted from a respective data area and detecting the optical intensity

of light imaged by the respective optical aperture that corresponds to the illuminated data area.

However, *McDanie*l discloses a readout layer (204) comprising a plurality of optical apertures (580), each optical aperture being arranged to image substantially only the near field of light emitted from a respective data area (Fig. 3, column 12, lines 15-17), where a plurality of apertures can be created using this method.

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to have modified the optical information storage unit with an information layer comprising a plurality of data areas as taught by *Alpervoich* by including that the readout layer is comprised of a plurality of apertures as taught by *McDaniel*. The suggestion/motivation would have been in order to vertically align the magnetic domains in the readout layer such that the magnetic domain marks in the readout layer can be detected by the head elements (McDaniel, column 12, lines 15-22).

Alperovich and McDaniel are deficient in disclosing detecting the optical intensity of light imaged by the respective optical aperture that corresponds to the illuminated data area.

However, *Knight* discloses detecting the optical intensity of light imaged by the respective optical aperture that corresponds to the illuminated data area (Fig. 28G, paragraph 0270, lines 5-6), where the optical sensor comprises detections A and B which detect the intensity of light.

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to have modified the optical information storage unit with an information

layer comprising a plurality of data areas as taught by *Alperovich* and *McDaniel* by including detecting the optical intensity of light as taught by *Knight*. The suggestion/motivation would have been in order to detect the recorded data on the disc (Knight, paragraph 0270, lines 6-9).

As to **claim 16**, *Alperovich* and *McDaniel* are deficient in disclosing the method of reading information from an optical information storage unit, the method further comprising the step of: moving the information layer within a plane substantially parallel to the readout layer, such that an optical aperture previously imaging a first data area images a second, different data area within the information layer.

However, *Knight* discloses the method of reading information from an optical information storage unit, the method further comprising the step of: moving the information layer within a plane substantially parallel to the readout layer, such that an optical aperture previously imaging a first data area images a second, different data area within the information layer (Fig. 28D, paragraph 0250), where the readout layer and storage layer adjust their magnetization in relation to each other and the layers are movable within a plane in relation to each other. In addition, the same motivation is used as the rejection in claim 2.

As to **claim 19**, *Alperovich* discloses providing a light source arranged to provide light at the predetermined wavelength for illumination of the data areas of the storage unit (Paragraph 0028), where the laser or light source provides a specific wavelength of light to illuminate the data areas.

Alperovich and *McDaniel* are deficient in disclosing a method of manufacturing a reader for an optical information storage unit, the method comprising: providing a locator unit arranged to removably receive an optical information storage unit; and providing an optical sensor comprising a plurality of light sensing areas, the optical sensor being arranged to detect the near field of light imaged by each respective optical aperture of the storage unit.

However, *Knight* discloses a method of manufacturing a reader for an optical information storage unit, the method comprising: providing a locator unit arranged to removably receive an optical information storage unit (Fig. 33A-33C, paragraph 0443, lines 1-6), where the optical drive (3310) is the locator unit that receives an optical information storage unit (3320); and providing an optical sensor comprising a plurality of light sensing areas, the optical sensor being arranged to detect the near field of light imaged by each respective optical aperture of the storage unit (Fig. 28G, paragraph 0270, lines 5-6), where the optical sensor comprises detectors A and B.

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to have modified the optical information storage unit with an information layer comprising a plurality of data areas as taught by *Alperovich* and *McDaniel* by including a locator unit arranged to removably receive an optical information storage unit as taught by *Knight*. The suggestion/motivation would have been in order to be able to read the disc or cartridge in a protected environment (Knight, paragraph 0443, lines 8-10).

Response to Arguments

Applicant's arguments, see page 9, lines 15-23, filed 07/21/2008, with respect to the rejection(s) of claim(s) 1 under U.S Patent No. 6,493,312 B1 to *Negishi et al*. in view of U.S. Patent No. 6,706,358 to *McDaniel et al*. have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made under 35 USC 103 over U.S. Patent Pub. No. 2002/0098446 A1 to *Alperovich et al*. in view of U.S. Patent No. 6,706,358 B1 to *McDaniel et al*. However, responsive comments are made below with respect to the references that are maintained in the new rejections, specifically, *McDaniel et al., Knight, Alperovich* and *Kawano.*

Applicant argues with respect to claim 1, that *McDaniel* fails to teach "a readout layer comprising a plurality of optical apertures, each optical aperture being arranged to image substantially only the near field of light emitted from a respective data area" (Page 11, lines 6-15).

The Examiner disagrees that *McDaniel* fails to teach "a readout layer comprising a plurality of optical apertures, each optical aperture being arranged to image substantially only the near field of light emitted from a respective data area" because many apertures can be formed at the readout layer using *McDaniel*'s method and it would have been obvious to make the alteration of allowing optical light to transmit through the aperture instead of magnetic flux as *McDaniel* discloses (Fig. 3, column 12, lines 15-17).

Applicant secondly argues with respect to claim 2, that *Knight* fails to teach "both the readout layer and the information layer are planar and substantially parallel, the separation between the information layer and the readout layer being less than the wavelength of emitted light" (Page 11, lines 16-26).

Examiner disagrees because as shown in Fig. 28D-2, there is a recording layer and read-out layer parallel to each other and are in the same plane. Also, no separation is the same as having a separation of less than a wavelength. The claim does not specify that there must be a separation. Again, it would have been obvious to make the alteration of allowing light rather than flux to transmit through the apertures.

Applicant thirdly argues with respect to claim 7, that *Alperovich* and *Kawano* fail to teach "wherein each area comprises a fluorescent material, the light emitted from each data area comprising the light emitted by the material as it fluoresces, the illuminating light acting to excite the fluorescent material" (Page 12, lines 12-26).

Examiner disagrees because *Alperovich* discloses fluorescing phases (702) that consists of fluorescent material and light is emitted by these fluorescing phases (702) when it is excited by light (Paragraph 0023, lines 4-10, Fig. 7, paragraph 0060, lines 3-6).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aneeta Patankar whose telephone number is (571) 272-

9773. The examiner can normally be reached on Monday-Thursday 8-5, Second Friday, 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrea L Wellington/
Supervisory Patent Examiner, Art Unit 2627

/A.P./
10/20/08